

ABSTRACT

A fluid volumetric pumping system has a fluid pump and capacitor plates disposed around a pump chamber of the fluid pump. The capacitance between the capacitor plates changes as the volume of fluid in the pump chamber changes. An electrical circuit measures a change in the capacitance between the plates and outputs a signal indicative of the volume of fluid in the pump chamber. The pump having the capacitance sensor of the present invention fluidly connects to a patient. In an embodiment, a peritoneal dialysis system provides dialysate to the patient via the pump, and the capacitance sensor measures the volume of dialysate supplied to and drained from a peritoneal cavity of the patient.